

**ABSTRACT OF THE DISCLOSURE**

A method for fabricating cell plugs of a semiconductor device with cell plugs is disclosed, which increases the operation speed of the semiconductor device by reducing the cell plug resistance of the device. The semiconductor device includes a first insulating interlayer on a semiconductor substrate; a  
5 first cell plug on the semiconductor substrate through the first insulating interlayer; a second insulating interlayer on the first insulating interlayer; a silicide contact on a predetermined surface of the first cell plug through the first insulating interlayer; and a second cell plug on the silicide contact through the second insulating interlayer.